

A REVISION OF DEMOPHELES

(HYMENOPTERA, ICHNEUMONIDAE)¹HENRY TOWNES, *Museum of Zoology, University of Michigan, Ann Arbor*

Demopheles is a Holarctic genus of ichneumonids belonging to the subfamily Gelinae. In recent years it has been placed in the tribe Hemigasterini (= Aptesini) because it agrees with the characters of this tribe as usually defined. (See the tribal definition by Townes and Townes, 1962, U. S. Natl. Mus. Bul. 216 (3): 4, 6.) Recent studies, however, indicate that it is probably best placed in the tribe Gelini, as in spite of its vertical second recurrent vein with a single bulla, and the white face of the male, it disagrees with other Hemigasterini and is similar to certain genera of Gelini in having the apical truncation of the scape rather weakly instead of strongly oblique, epipleurum of second tergite turned under rather than pendant, and lower tooth of mandible shorter than the upper tooth. The Gelini itself is a heterogeneous tribe. When the relations between its many genera are better worked out the tribe will probably be subdivided and at that time the taxonomic position of *Demopheles* can be indicated more exactly.

Genus *Demopheles*

Demopheles Foerster, 1868. Verh. Naturh. Ver. Rheinlande 25: 186. Type: (*Phygadeuon caliginosus* Gravenhorst ♀, not ♂) = *corruptor* Taschenberg. Included by Dalla Torre, 1902.

Mecocryptus Thomson, 1873. Opuscula entomologica fasc. 5, p. 520, 521. Type: (*Phygadeuon caliginosus* Gravenhorst ♀, not ♂) = *corruptor* Taschenberg. Original designation.

Demopheles can best be recognized from the habitus figure accompanying this article. (The figure is by Miss Y. Morimoto of Kyoto Prefectural University.) A peculiarity of the female is the strong, pre-apical transverse ridge on the clypeus which has a deep median notch, as shown in the figure. In the male the clypeus is simple but unusually wide, with its apical margin blunt and broadly, convexly arcuate.

The genus contains a single polytypic species, of Holarctic distribution. Our collections of it have been usually from damp, rich deciduous woods. The only known host is *Clytus* (Cerambycidae). A single cocoon of the parasite is at hand. It is elliptic, papery, and of a medium brown color. The exit hole is terminal.

Demopheles corruptor Taschenberg

(Fig. 1)

Front wing of male 3.5 to 4.5 mm. long, of female 3.8 to 6.3 mm. long. Structural characters of female as in the figure. Male somewhat more slender than

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female, the apical margin of clypeus without a median notch but very bluntly rounded, and flagellum with about three elongate elliptic, strongly raised but flat-topped tyloids on segments 10-12, the largest tyloid on segment 11.

The species is Holarctic, with four subspecies as keyed and described below.

MALES (SO FAR AS KNOWN)

1. Hind coxa ferruginous, often fuscous basally; range: eastern United States and Canada..... a. **corruptor maturus** Provancher
- Hind coxa black; range: Europe..... c. **corruptor corruptor** Taschenberg

FEMALES

1. Hind coxa ferruginous; wrinkling on mesopleurum rather weak..... 2
Hind coxa black; wrinkling on mesopleurum rather strong..... 3
2. Tergites 2 and 3 black; face entirely black or partly ferruginous; range: eastern United States and Canada..... a. **corruptor maturus** Provancher
- Tergites 2 and 3 ferruginous; face entirely ferruginous; range: western United States..... b. **corruptor rufatus**, new subspecies
3. Femora ferruginous; punctures on frons just below ocelli separated by about 0.8 their diameter; range: Europe..... c. **corruptor corruptor** Taschenberg
- Femora blackish; punctures on frons just below ocelli separated by about 1.3 their diameter; range: Japan..... d. **corruptor atripes**, new subspecies

a. **Demopheles corruptor maturus** Provancher, new status

Phygadeuon maturus Provancher, 1879. Nat. Canad. 11: 68 (Faune, p. 314). ♀.
Type: ♀, St. Hyacinthe, Que. (Quebec).

Male.—Black. Frontal orbit, face, cheek, clypeus, mouth parts, scape except above, under side of pedicel, collar and lower edge of pronotum, hind corner of pronotum, tegula, subtegular ridge, and front and middle coxae and trochanters, white; front and middle legs beyond trochanters pale fulvous, their tarsi tinged with brown toward apex; hind coxa and femur ferruginous, the base of coxa often fuscous; hind trochanters fulvous; hind tibia fulvous, somewhat infuscate apically; hind tarsus fuscous.

Female.—Punctures on upper part of frons separated by about 1.8 their diameter; mesopleurum (except on speculum) with rather small but distinct punctures that are separated by about 1.5 their diameter, at and below the middle with fine longitudinal wrinkling in addition to the punctures. Black. Orbital stripe on lower 0.6 of frons which often extends to upper corner of face, and tegula white; clypeus, usually part and sometimes all of face and cheek, mandible, under side of scape and pedicel, and usually narrow collar and lower margin of pronotum, ferruginous; palpi fulvous; flagellum brown apically, especially beneath; subtegular ridge ferruginous to whitish; legs fulvoferruginous, the hind tibia and tarsus sometimes a little darkened.

Specimens.—46 ♂, 29 ♀ from Alberta (Edmonton); Connecticut (Litchfield); Georgia (Pine Mountain in Rabun Co. at 1,400 ft); Maine (Lincoln Co.); Maryland (Glen Echo and Takoma Park); Massachusetts (Holliston and Winchenden); Michigan (Ann Arbor, Clare Co., East Lansing, Gogebic Co., Huron Mountains, and Yellow Dog Plains in Marquette Co.); New York (Artists Brook in Essex

Co., Babylon, Ithaca, Lancaster, Millwood, and Poughkeepsie); North Carolina (Tryon); Ontario (MacDiarmid near Lake Nipigon, Muskoka District, Ottawa, and Timagami); Pennsylvania (Dushore); Quebec (Duchesnay, Laniel, L'Avenir, Quebec, and Stoneham); South Carolina (Cleveland); and Vermont (Laurel Lake near Jacksonville).

The record from Edmonton, Alta., reported above, is based on a male specimen. Since it is not known how males of *maturus* may be distinguished from those of the western subspecies *rufatus*, this specimen could possibly represent *rufatus* instead of *maturus*.

Collection dates are from late spring to mid fall. The earliest and latest dates are: May 1 at Winchenden, Mass.; May 14 at Pine Mountain, 1,400 ft., Rabun Co., Ga.; May 23 at L'Avenir, Que.; May 23 to 28 in Clare Co., Mich.; May 30 at Ann Arbor, Mich. and at Syracuse, N. Y.; August 26 to 28 at Ann Arbor, Mich.; September 9 at Timagami, Ont. and at Holliston, Mass.; and October 10 at Holliston, Mass. There is one reared specimen: ♂, from *Clytus ruricola*, Duchesnay, Que., June 4, 1941, Jos. I. Beaulne.

This subspecies occurs in North America east of the Rocky Mountains, ranging from the Upper Austral to the Canadian Zone.

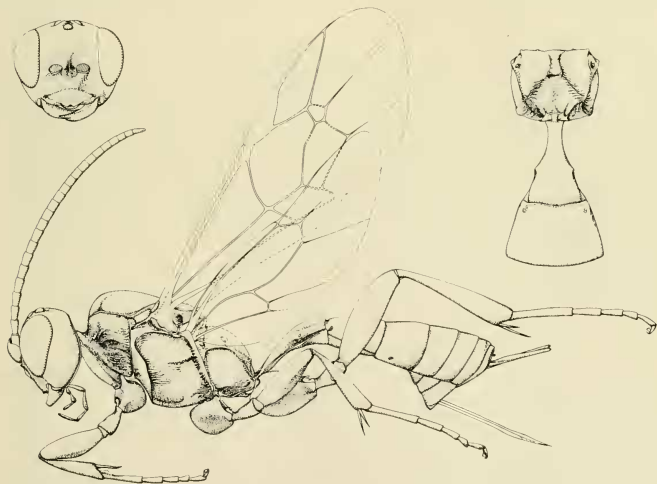


Figure 1. *Demopheles corruptor* ♀, side view, front view of head, and top view of propodeum and first two segments of abdomen.

b. *Demopheles corruptor rufatus*, new subspecies

Male.—Unknown.

Female.—Similar in structure to the female of the subspecies *maturus* except

that the frontal and pleural punctures are slightly stronger. Black. Face, cheek, clypeus, mandible, scape, pedicel, collar and lower margin of pronotum, hind corner of pronotum, subtegular ridge, legs, and much or most of abdomen, ferruginous; orbital stripe on lower 0.6 of frons and tegula white; flagellum brown, ferruginous basally; palpi fulvous; abdomen ferruginous, the basal 0.4 to 0.8 of its first segment and more or less of its apical tergites blackish, the second and third tergites always ferruginous, with or without fuscous tinges.

Type.—♀, Fish Creek, Mt. Rainier, 2,900 ft., Wash., H. and M. Townes (Townes).

Paratypes.—♀, Phantom Valley, Rocky Mountain National Park, 9,400 ft., Colo., Aug. 10, 1948, H., M., D., and J. Townes (Townes). ♀, Lincoln National Forest, Cloudercroft, N. Mex., 1951 (Washington). ♀, same data as type (Townes).

c. *Demopheles corruptor corruptor* Taschenberg

Phygadeuon caliginosus Gravenhorst, 1829. Ichneumonologia europaea 2: 645.

♀, not ♂. The ♂ described by Gravenhorst is the true *caliginosus*, teste Taschenberg, 1865, Ztschr. Gesam. Naturw. 25: 22, 49.

Phygadeuon corruptor Taschenberg, 1865. Ztschr. Gesam. Naturw. 25: 49. ♀.

Lectotype, hereby designated: ♀ (labeled lectotype by Townes), Warmbrunn, Germany (Wroclaw).

Male.—The male is unknown to me but Thomson and Morley describe it as having the hind coxa black and the femora ferruginous, as in the female.

Female.—Punctures on upper part of frons coarse, separated by about 0.8 their diameter; mesopleurum with small punctures that are separated by about 2.0 their diameter and with rather fine, mostly longitudinal wrinkling. The speculum is without wrinkles and partly punctate. Black. Apical 0.6 of clypeus, mouth parts, under side of scape and pedicel, and legs ferruginous, the hind coxa black and hind tibia and tarsus sometimes infuscate; narrow orbital stripe on lower 0.6 of frons and tegula white; flagellum brownish basally and apically, especially below; subtegular ridge ferruginous to whitish.

Specimens: 3 ♀ from Germany (Berchtesgaden, and Bodmann on the Bodensee).

This subspecies is widespread in Europe.

d. *Demopheles caliginosus atripes*, new subspecies

Male.—*Unknown*.

Female.—Punctures on upper part of frons separated by about 1.3 their diameter; mesopleurum covered with rather strong, mostly longitudinal wrinkling and rather small punctures that are partly obscured by the wrinkling. A part of the speculum is unsculptured. Black. Orbital stripe on lower 0.6 of frons (interrupted by the tentorial attachment) and tegula white; palpi and apical 0.4 of mandible fulvous or brown; front and middle legs beyond first trochanter brown, their knees and front side of front tibia pale brown.

Type.—♀, Sapporo, Japan, July 6, 1954, Townes family (Townes).

Paratypes.—♀, Aizankei (Ishikari), Hokkaido, Japan, Aug. 4, 1937, K. Yasumatsu (Townes), ♀, Mt. Norikura, 2,000 m., Japan, July 30, 1954, Townes family (Townes).